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Mr. Gary Collord
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California Air Resources Board
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Dear Mr. Collord,

We would like to use this letter to comment on your Proposed Concept Outline for the California Renewable Electricity Standard, which was released for public review on October 30, 2009.

California is leading the United States in developing regulations to control greenhouse gas (GHG) emissions. By 2020, the state would like to reduce GHG emissions to the level emitted in 1990. A key part of the state's strategy is to speed up the transition from fossil fuel-based power generation to power generated from renewable resources such as solar, wind, geothermal, hydro and municipal solid waste (MSW). According to the California Energy Commission, in 2007, 11.8 percent of our power came from renewable resources. Under current law, this must increase to 20 percent by December 31, 2010, and to 33 percent by 2020. Clearly, we are going to need every kilowatt of renewable electricity that we can find.

The state is relying on a close, working partnership between the California Energy Commission and the California Air Resources Board (CARB) to turn our plans for GHG reduction into reality. Working toward this goal, CARB has proposed a series of standards for defining renewable electricity. Under these definitions, power generated by a conventional waste-to-energy (WTE) facility is not classified as renewable. We believe this exclusion is either a simple oversight or an outright mistake; we are submitting this letter to explain our reasoning.

Both the California Energy Commission's Renewables Portfolio Standard (RPS) Eligibility Guidebook, published in January of 2008 and Public Resources Code Section 25741, define biomass as a renewable resource. In accordance with the California Energy Commission's RPS Guidebook, as long as the amount of fossil fuel consumed does not exceed 5 percent, 100 percent of the power generated by combusting biomass is renewable.

As is well known, biomass includes materials such as wood, paper and agricultural waste, all of which are naturally occurring or biogenic in nature. Under existing state procedures for reporting and verifying GHG emissions, MSW combusted in a conventional WTE facility can be broken down into biomass-derived and fossil-fuel derived fractions. Despite this regulatory delineation

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between renewable and non-renewable fuel, none of the power generated by a WTE facility, *not* even the power generated by the biomass-derived waste, is considered renewable under Public Resources Code Section 25741 and Public Utilities Code Section 399.12.

We believe there are strong public-policy reasons to redress this apparent regulatory contradiction. As noted on the California Energy Commission website, "...the gross resource potential of MSW in California is estimated to be as high as 2,000 MW..." Given the tremendous challenge of bringing online sufficient new sources of renewable energy to meet the above mandate that by 2020, 33 percent of the power used in California be renewable, we strongly encourage CARB to take a very critical look of those regulations which, with one exception, hold that a conventional WTE facility is not an eligible source of renewable power. We propose to meet with you and a representative from the California Energy Commission as soon as possible to examine this issue more fully.

Staff at both the Public Utilities Commission and the California Energy Commission, working on parallel regulations, which SB1368 required them to promulgate on nearly overlapping schedules, held a series of public workshops in developing the regulations. The California Energy Commission staff published at least one Staff Issue Identification Paper in which Energy Commission staff discussed the concept of netting avoided landfill greenhouse gas emissions (CH₄) against the CO₂ emissions associated with combusting municipal solid waste, and noted that comments received in the Public Service Commission proceedings had elicited comments and a recommendation to assign an emission rate of zero for all renewables, including biogenic sources, such as solid waste.

In the enacted regulation of the California Energy Commission, certain types of facilities are deemed to comply: (a) those meeting the criteria of a renewable source under the Public Resources Code and (b) those using biomass fuels *that would otherwise be disposed of in a landfill*. Biomass is defined to include, but is *not limited to*, agricultural waste, wood waste (both constituents of post-curbside recycling municipal solid waste) and landfill gas. Thus, unprocessed solid waste which would otherwise be disposed of in landfills could qualify as biomass, and facilities which would use solid waste as fuel would then automatically satisfy the CO₂ regulation in SB 1368.

The Global Roundtable on Climate Change, which is organized through the Earth Institute at Columbia University (www.nextgenerationearth.org) and composed of more than 150 individuals and representatives of organizations from academic, research, corporate, and government centers throughout the world, issued a statement on February 20, 2007 supporting this view, stating that "de-carbonization of energy sources can be achieved by increasing the use of non-fossil-fuel-based energy sources. Potential options include wind, solar, hydro, tidal, wave, nuclear, waste-to energy and biomass." (emphasis added) The Roundtable also states that waste-to-energy

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facilities avoid about 1 ton of CO₂ equivalents (annually) for each ton of municipal waste processed via combustion rather than being landfilled.

It is important to note that the above regulatory contradiction can be traced back to the passage of AB 939, which minimized the societal benefit of treating MSW by combusting it in a WTE facility. The following discussion presents an explanation of how this happened.

The Critical Role of AB 939

State of California regulations, such as Public Resources Code Section 25741 and Public Utilities Code Section 399.12 reflect the intent of AB 939 (Sher) – *The Integrated Waste Management Act*, which was passed in 1989. This act produced a comprehensive restructuring of how waste is managed in California and included a "waste-diversion mandate," which required cities and counties to begin implementing programs for diverting solid waste away from landfills. By January 1, 2000, cities and counties were expected to achieve a 50-percent diversion goal, utilizing source reduction, recycling and composting activities.

Under AB 939, a conventional WTE facility was classified as a "transformation" facility, and sending waste to a WTE facility was discouraged. Only 10 percent of the waste covered by a 50-percent diversion plan could be sent to a transformation facility. Today, twenty years after the passage of AB 939, we strongly encourage CARB and the California Energy Commission to review the legitimacy of the concerns which led to the restrictions on the use of WTE. Because of these concerns, electrical power from all but one WTE facility is not currently considered to be renewable electricity in California. This is inconsistent with views of staff at both the Public Utilities Commission and the Energy Commission discussed above, but also with the view of the Global Roundtable on Climate Change and the European Commission and many of its member countries regarding energy produced by WTE facilities.

Two concerns that led to the restrictions on WTE, as expressed in AB 939, the Public Resources Code and the Public Utilities Code are:

- WTE reduces recycling
- WTE pollutes the air

Both of these concerns are still held by a number of prominent environmental groups. We accept that both concerns must be seriously reviewed before the state considers changing a twenty-year-old public policy. The following discussion presents an example of such a review.

WTE and Recycling

As pointed out by Covanta in their public comments, numerous studies show that WTE does not reduce recycling. In fact, the opposite is true. Those communities across the United States which utilize WTE facilities to treat MSW have higher recycling rates than the national average.

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According to a 2008 study by Dr. Eileen Berenyi of Governmental Advisory Associates(1), WTE communities have an average recycling rate of 33.2 percent, which is higher than the 28.5 percent national average calculated by *BioCycle* magazine. Even in Minnesota, which uses WTE for 54.2 percent of its MSW disposal, the recycling rate is 39.8 percent, well above the national average. Clearly, despite concerns expressed by environmentalists twenty years ago, today's data indicates that WTE promotes, rather than reduces recycling in the United States.

WTE and Air Pollution

There are three WTE facilities in California, one in Stanislaus County and two in the greater Los Angeles area. All three operate in full compliance with local air pollution requirements, which are among the strictest in the United States, as well as federal emissions and operating standards applicable to existing WTE facilities pursuant to the 1990 Clean Air Act Amendments. In the twenty years since these facilities were constructed, however, air-pollution regulations in California have become increasingly more stringent, and it would be helpful to know that a new WTE facility would meet our strictest standards, represented by the regulations of the South Coast Air Quality Management District (SCAQMD).

Fortunately, new WTE facilities being constructed in the European Union employ advanced emission-control technologies which very effectively control atmospheric emissions. To assess whether an advanced European WTE facility would meet the very strict SCAQMD emission limitations, engineers from Environ International and Meo & Associates studied the emissions from the MVR facility in Hamburg, Germany. Using an SCAQMD-approved emission model, the investigators evaluated whether an MVR-type facility could be constructed in the City of Los Angeles and comply with New Source Review requirements for criteria pollutants and toxic air contaminants.

The results of this study were presented in a paper titled "Waste-to-Energy Goes Green" at the WASTECON 2009 conference in Long Beach in September of 2009(2). According to this paper, a new MVR-type facility constructed in Los Angeles would easily meet all New Source Review requirements for criteria pollutants and toxic air contaminants. For convenience, an electronic copy of this paper is being provided for your review.

Air pollution and health risk should not be a concern. More to the point, using U.S. EPA's Decision Support Tool, which is designed to compare alternative solid-waste-management options, a modern WTE facility will produce far less air pollution and GHG emissions than a landfill, which is the disposal method employed for approximately one-half of California's solid waste, and the principal alternative to utilizing WTE for the solid waste remaining after all measures to reduce, reuse, and recycle are exercised by municipal solid waste authorities (3).

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Using State Procedures to Quantify Renewable Power Produced by a WTE Facility

As noted, under Public Resources Code Section 25741, power generated by combusting biomass is renewable power. Unfortunately, Public Utilities Code Section 399.12 states that combusting MSW is an eligible renewable resource solely at the Covanta facility located in Stanislaus County, which was operational prior to September 26, 1996. Although U.S. EPA estimates that at least one-half of MSW is biogenic(4)(5), Public Utilities Code Section 399.12 treats MSW received and processed at the existing and proposed WTE facilities in California as though it contains no (biogenic) biomass. As noted, this regulatory policy appears to be a continuation of the policy established by AB 939, which when it was passed twenty years ago, minimized the societal benefit of combusting MSW.

Fortunately, state procedures for reporting and verifying GHG emissions from a WTE facility, specifically CCR Title 17, Section 95125(h), may be used to resolve the above contradiction. Under Section 95125(h), a WTE facility can use ASTM Method D6866-06a to determine the biomass-derived portion of a fuel being burned by a WTE facility. Knowing the total power produced by a WTE facility and the portion of the fuel which is biomass-derived, the WTE facility can readily calculate for any given year the portion of the electrical power which is renewable.

This raises an interesting question. If the state's GHG-reporting and verification procedures provide a WTE facility with a method for quantifying that portion of their fuel which is biomass-derived, CARB should be willing to recognize the corresponding portion of the power produced as being renewable. Granted, CARB will probably want the support of the California Energy Commission, which, as noted above, already recognizes the power produced by combusting biomass as renewable in their RPS Guidebook.

Joint Meeting between CARB and California Energy Commission

To resolve the issue of how best to treat power produced from a fuel which is a mixture biogenic and non-biogenic material, we would like to meet with representatives from both CARB and the California Energy Commission. Because CARB is in the process of rewriting their RPS guidebook, a meeting right after the holidays should be very timely.

Sincerely yours,

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